



Mark Scheme (Results)

June 2022

Pearson BTEC Nationals
In IT (31760H)

Unit 1: Information Technology Systems

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Unit 1: Information Technology Systems

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- All marks on the mark scheme should be used appropriately.
- All marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if a candidate's response is not worthy of credit according to the mark scheme.
- Where some judgment is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt about applying the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed-out work should be marked UNLESS the candidate has replaced it with an alternative response.
- Phonetic spelling should be accepted.

Specific marking guidance

The marking grids have been designed to assess learner work holistically. Rows in the grids identify the assessment focus/outcome being targeted. When using a marking grid, the 'best fit' approach should be used.

- Examiners should first make a holistic judgement on which band most closely matches the learner's response and place it within that band. Learners will be placed in the band that best describes their answer.
- The mark awarded within the band will be decided based on the quality of the answer, in response to the assessment focus/outcome and will be modified according to how securely all bullet points are displayed at that band.
- Marks will be awarded towards the top or bottom of that band, depending on how they have evidenced each of the descriptor bullet points.

Question Number	Answer	Mark
1ai	<p>Any two from:</p> <p>Mixture of both uppercase and lowercase characters (1)</p> <p>Mixture of letters, numbers and special characters/symbols (1)</p> <p>Avoid using dictionary words (1)</p> <p>Avoid using repeated characters / adjacent keyboard characters (1)</p> <p>Never use personal/memorable information, such as name, pet's name (1)</p> <p>Never use your username as your password (1)</p> <p>Never use obvious substitutions, such as 'Passw0rd' (1)</p> <p>Accept any other relevant phrasing/wording</p>	2

Question Number	Answer	Mark
1aii	<p>Any two from:</p> <p>Never write the password down (1)</p> <p>Never reveal his password to anyone (1)</p> <p>Never allow anyone (shoulder surfing) to watch him type the password in (1)</p> <p>Never allow browsers (on shared/public PCs) to remember the password (1)</p> <p>Use different passwords for different sites (1)</p> <p>Encrypt passwords / password manager (1)</p> <p>Don't use a previously used password (1)</p> <p>Use of anti-malware to prevent installation of key logging / surveillance software (1)</p> <p>Accept any other relevant phrasing/wording</p>	2

Question Number	Answer	Mark
1aiii	<p>Award up to two marks for a linked explanation, such as:</p> <p>Social media, e.g. Facebook, Twitter, Instagram, etc. (1)</p> <ul style="list-style-type: none"> • he can create posts/groups so he can showcase his work (1) • he can interact with communities through comments and direct messaging (1) • face to face interaction (1) <p>Blog, vlog (1)</p> <ul style="list-style-type: none"> • ability to link/post new products or services (1) <p>Wiki (1)</p> <ul style="list-style-type: none"> • because he can post a link to the video (1) <p>Chatrooms (1)</p> <ul style="list-style-type: none"> • because he can set up a video chat room to offer tips on painting and decorating (1) <p>Instant messaging (IM) (1)</p> <ul style="list-style-type: none"> • because it is time saving / provides real time communication (1) <p>Live video calls (1)</p> <ul style="list-style-type: none"> • because they can have face to face communication (1) <p>Email (1) so James can communicate with groups of people (1)</p> <p>Accept:</p> <p>Microblog, e.g. Twitter</p> <p>Mix and match where appropriate, e.g. Social media (1) because he can link to his products and services videos (1)</p> <p>Do not accept:</p> <p>Podcasts – Only a communication channel and not an interactive channel</p> <p>Accept any other relevant phrasing/wording</p>	2

Question Number	Answer	Mark
1b	<p>Award up to two marks for a linked explanation, such as:</p> <p>James</p> <p>Damage to James' reputation (1) which could lead to loss of customers (1)</p> <p>Could be prosecuted (1) for failing to comply with the DPA/GDPR (1)</p> <p>James' competitors could gain an advantage (1) if they get hold of any of the compromised data (1)</p> <p>He would not be able to show his designs to potential customers (1) due to temporary loss of access to his files (1)</p> <p>Cloud storage provider</p> <p>Damage to cloud storage company's reputation (1) which could lead to loss of customers/revenue (1)</p> <p>(Other cloud storage providers) could target breached customers (1) in order to get their business (1)</p> <p>Financial loss (1) due to compensation claims from James / cause bankruptcy (1)</p> <p>Do not accept: Same response regarding reputation for both James and the Cloud storage provider.</p> <p>Fraud – this is not something that would not apply to James in this instance.</p> <p>Additional guidance: Responsibility for the data lies with the owner (James) and not the storage provider.</p> <p>Accept any other relevant phrasing/wording</p>	4

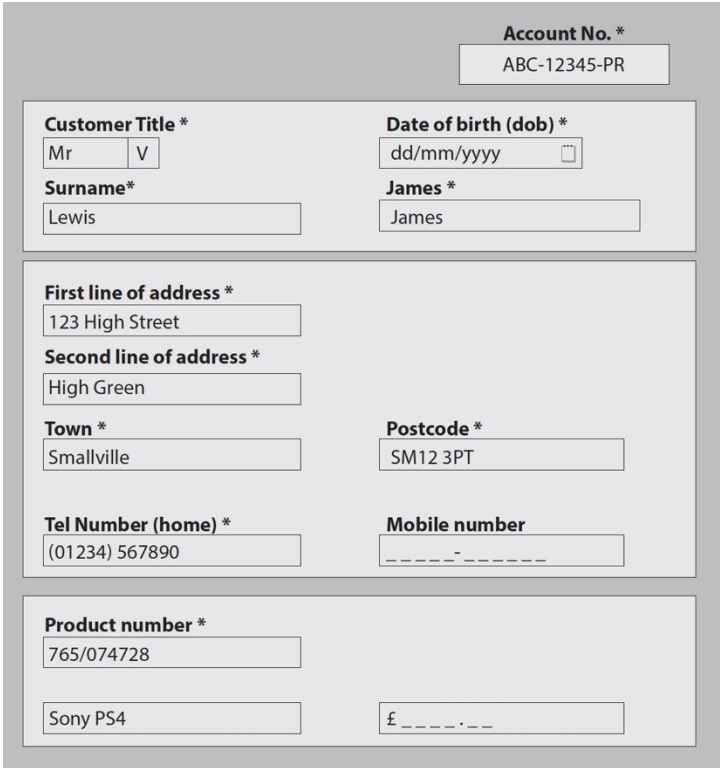
Question Number	Answer	Mark
1c	<p>Award up to two marks for a linked explanation, such as:</p> <p>Portability (1) because storage devices are small and lightweight which makes them easily moved from one location to another (1)</p> <p>Require no power (1) because they rely on the power from the device they will be plugged into (1)</p> <p>Fast data transfers (1) because removable storage devices can transfer files at relatively fast speeds (1)</p> <p>Security of data (1) because most removeable storage devices come with data encryption technology (1)</p> <p>Easy to use (1) because most storage devices have plug-and-play feature (1)</p> <p>Increased durability (1) because most flash drives lack moving parts / that are less prone to damage from drops or shocks (1)</p> <p>Compatibility with many devices (1) because many removable storage devices use a USB interface / allows him to transfer files to other devices (1)</p> <p>Cost efficient (1) because no subscription or membership is needed (cloud storage) (1)</p> <p>Data can be accessed offline / anywhere (1) whereas if used cloud storage he would need an internet connection (1)</p> <p>Do Not Accept Cheaper on its own</p> <p>Accept any other relevant phrasing/wording</p>	4

Question Number	Answer	Mark
1d	<p>Award up to four marks from:</p> <p>Install anti-virus / anti-spyware / anti-malware software (1) to scan downloaded video files for suspicious threats (1)</p> <p>Regularly update anti-virus / anti-spyware / anti-malware software (1) to make sure the software recognises new threats (1)</p> <p>Use trusted websites (1) that have digital certificates / https (1)</p> <p>Safe browsing (1) set settings to stop visit untrusted website (1)</p> <p>Do not accept: Firewalls – they block unwanted traffic so not relevant for this question</p> <p>Accept any other relevant phrasing/wording</p>	4

Question Number	Indicative content
1e	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners discuss the features of suitable video file formats.</p> <p><u>AVI (Audio Video Interleave)</u></p> <ul style="list-style-type: none"> • Versatile which makes it compatible with Windows, Linus, Mac • Supported by most web browsers • Uses less file compression which results in large file sizes, which could cause delays in streaming content • Can create video files without compression, which makes the files lossless and it will keep its quality over time <p><u>WMV (Windows Media Video)</u></p> <ul style="list-style-type: none"> • Developed by Microsoft so this type of file can generally be played on Windows media players • Not compatible with Apple devices, however, windows media player can be downloaded to play on iPhone/Mac • The quality is generally higher which makes the file size quite large <p><u>MOV and QT (Quicktime formats)</u></p> <ul style="list-style-type: none"> • compatible with Windows and Mac platforms • specifically designed for QuickTime players • can store video effects, but because the quality is generally high, therefore the file size is quite large • uses lossless video compression, when uncompressed there is no loss of data <p><u>MP4 (Do not accept MP3 – audio file format)</u></p> <ul style="list-style-type: none"> • Supported by most digital platforms and devices • Can store video files (as well as audio, images and text) • MP4 retains high video quality in relatively small file sizes • Lossy file compression <p><u>AVCHD (Advanced Video coding high definition)</u></p> <ul style="list-style-type: none"> • Used for HD video playback and digital recording • Using compression, it allows storage of high-quality video using a small amount of data • Supports 3D video

	<p><u>FLV and SWF (Flash formats)</u></p> <ul style="list-style-type: none"> • Most versatile and popular video formats which is supported by web browsers and video platforms • Uses small file sizes so downloads are quicker • Not compatible with iOS devices and some other mobile devices <p><u>WebM</u></p> <ul style="list-style-type: none"> • Open source video format for use with HTML5 • Requires a small amount of power to compress and unzip the files • Enables online video streaming on most devices
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Mark scheme (award up to 6 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.		
Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-2	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding • There will be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic points • Little or no consideration of different aspects
Level 2	3-4	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding • There will be some gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects • There will be some consideration of how they interrelate
Level 3	5-6	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • There will be minor gaps or omissions • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects • Clearly shows how they interrelate

Question Number	Answer	Mark
2ai	<p>Award one mark for identification and one additional mark for appropriate expansion.</p> <p>Presence check (1) checks essential data fields '*' have not been left blank (1)</p> <p>Format check (1) checks data entered (dob / post code / telephone numbers / price) use the correct pattern (format) / using an input mask (1)</p> <p>Lookup table (1) looks up acceptable values in a table (product details against product number) (1)</p> <p>Length check (1) checks data entered is of the required length (for product number 8 numbers) (1)</p> <p>Multiple choice / Drop down list (1) using a list box to select from options for 'Customer title' (1)</p> <p>Type check (1) checks data entered is acceptable, e.g. text or number (1)</p> <p>Database lookup table (1) checks existing postcodes from a specified database of values (1)</p> <p>Accept any other relevant phrasing/wording</p>  <p>The screenshot shows a customer registration form with the following fields and labels:</p> <ul style="list-style-type: none"> Account No. *: ABC-12345-PR Customer Title *: Mr [V] (dropdown) Surname *: Lewis Date of birth (dob) *: dd/mm/yyyy (calendar icon) James *: James First line of address *: 123 High Street Second line of address *: High Green Town *: Smallville Postcode *: SM12 3PT Tel Number (home) *: (01234) 567890 Mobile number: - - - - - - - - - - Product number *: 765/074728 Sony PS4: Sony PS4 £: - - - - - . - - - 	6

	<p>Additional Guidance: Suitable fields for the listed checks.</p> <p>Presence check: Title / Surname / James / DOB / 1st add / 2nd add / Town / Postcode / Tel Num (Home) / Product Num</p> <p>Format check: DOB / Tel Num / Mob Num / Product Num</p> <p>Lookup table: Product num / Product description / Price</p> <p>Length check: Product num / Tel num / Mob num / Postcode</p> <p>Multiple choice: Cus Title / DOB</p> <p>Type check: Surname / Address / Tel num / product num</p>	
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Question Number	Answer	Mark
2a ii	<p>Award one mark for identification and one additional mark for appropriate expansion.</p> <p>Verification (1) double entry / operator enters data twice and compares the two entries (1) proof reading / involves someone checking the data entered against the original document (1)</p> <p>Accept any other relevant phrasing/wording</p>	2

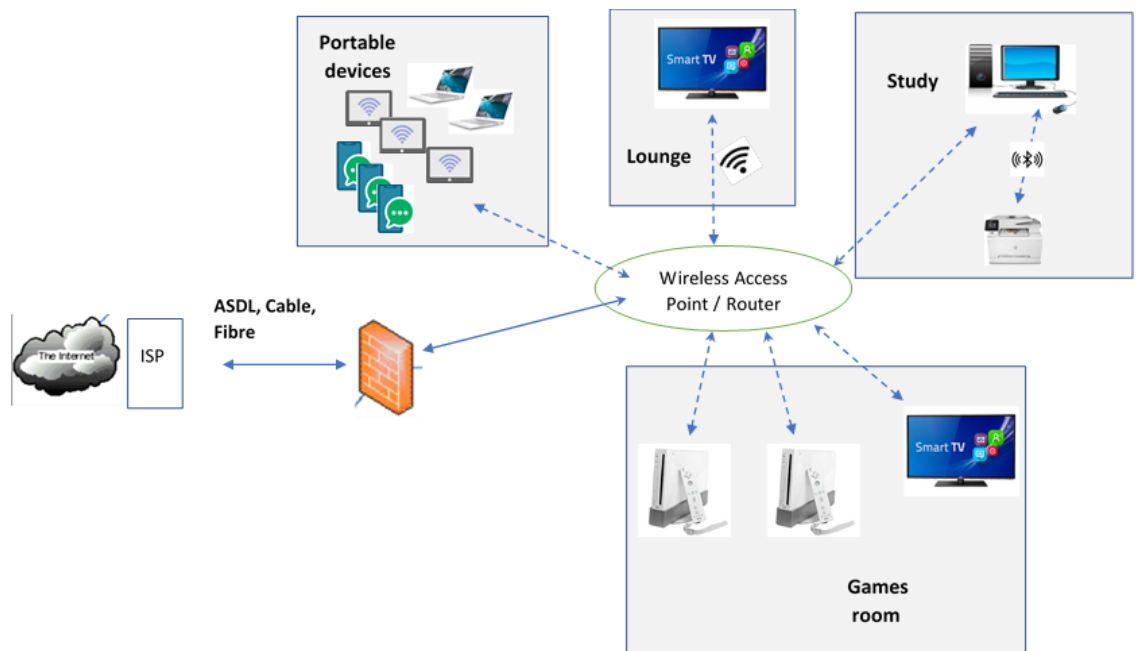
Question Number	Answer	Mark
2b	<p>Award one mark for identification and one additional mark for appropriate expansion.</p> <p>Improve productivity (1) because stock balances are automatically updated (1)</p> <p>More accurate stock levels / calculations (1) because the system is linked to the EPOS system (1)</p> <p>Automatic monitoring of stock levels (1) because the system sends alerts when stock levels are running low / triggers orders when re-order level is reached (1)</p> <p>Easier to track orders (1) because the shop will know when orders have been processed/despatched (1)</p> <p>Easier to track stock (1) because the shop can monitor all stock that is in transit (1)</p> <p>Easier to forecast / plan (1) because reports can be generated to review trends (1)</p> <p>Cost implications (1) the shop only needs to keep minimum stock levels (1)</p> <p>Accept any other relevant phrasing/wording</p>	4

Question Number	Indicative content
2c	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners to discuss the differences between a pie chart and line chart to display both sales reports</p> <p>Pie chart</p> <ul style="list-style-type: none"> • Pie charts represent numbers in percentages to visualise the parts to the whole • Pie charts make it easier to compare segments to the whole • The chart would show percentages • All segments of the whole should equal 100 percent • Effective when displaying no more than three values • Nulls do not always show on a pie chart <p>Line chart</p> <ul style="list-style-type: none"> • Usually displayed over a period of time • This type of chart could be effective as it could show trends • Ability to plot the sales in one graph • Easier to compare the sales trends • Possibility to extend the same chart to show sales for a longer period of time <p>It is an expectation that learners would suggest which chart is suitable, with a reasonable explanation to justify choice.</p>

Mark scheme (award up to 8 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.

Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-3	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding • There will be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic points • Little or no consideration of different aspects
Level 2	4-6	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding • There will be some gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects • There will be some consideration of how they interrelate
Level 3	7-8	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • There will be minor gaps or omissions • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects • Clearly shows how they interrelate

Question Number	Indicative content
3a	<p>A diagram of a potential system / integration of IT systems and connections used to meet the requirements of the scenario i.e. the home working and entertainment system.</p> <p>Example response – note this is indicative only. Credit should be given for a diagram that meets the requirements of the given problem.</p> <p>Diagram may include:</p> <p>Internet Access to the Internet is essential</p> <ul style="list-style-type: none"> • Internet • Firewall • Cable <p>Devices:</p> <p>Study:</p> <ul style="list-style-type: none"> • Desktop PC • Printer • WiFi router • Router • Switch/hub • Firewall <p>Games room:</p> <ul style="list-style-type: none"> • Games console • Smart TV <p>Lounge:</p> <ul style="list-style-type: none"> • Laptop • Tablet • Smart phone • Smart TV <p>Connection types that could be used</p> <p>Desktop PC to WiFi router – wireless Printer to Desktop PC – Bluetooth Smart TVs to WiFi router – wireless Games consoles to Smart TV – wired / wireless Smart phone to WiFi router – wireless / mobile data WiFi router to Internet Service Provider</p> <p>Annotations:</p>



Accept other reasonable solutions

Level	Descriptor
0 marks	No rewardable material
1-2 marks	<p>Diagram provides partial coverage of appropriate devices. Storage/Data sharing and connection types are used to meet some of the requirements of the scenario.</p> <p>Diagram includes annotations of the data that will be shared among the components of the system.</p>
3-4 marks	<p>Diagram provides coverage of mostly appropriate devices. Storage/data sharing and connection types are used to meet the majority of the requirements of the scenario, but these may not always be the most efficient.</p> <p>Diagram includes mostly accurate annotations of the data that will be shared among the components of the system</p>
5-6 marks	<p>Diagram provides thorough coverage of appropriate device. Storage/data sharing and connection types are used to fully meet the requirements of the scenario.</p> <p>Diagram includes detailed and accurate annotations of the data that will be shared among the components of the system.</p>

Question Number	Answer	Mark
3b	<p>A description of how encryption works to enable plans to be transmitted securely. To include four from:</p> <p>Private / public keys are generated/used (1)</p> <p>Sending and receiving computers exchange (public) keys (1)</p> <p>Uses an (encryption) algorithm (1)</p> <p>To scramble/make unreadable (1)</p> <p>Transmitted to receiving client with a decryption key (1)</p> <p>Receiving client uses the (private) key to unscramble/decrypt the data (1)</p> <p>Accept any other relevant phrasing/wording</p>	4

Question Number	Answer	Mark
3c	<p>Award one mark for identification and one additional mark for appropriate expansion.</p> <ul style="list-style-type: none"> • Device that allows more than one function to be performed (1) such as two of the below: <ul style="list-style-type: none"> ○ playing games ○ browsing the Internet ○ watching movies ○ listening to music etc. (1) <p>Accept any other relevant phrasing/wording</p>	2

Question Number	Answer	Mark
3d	<p>Award one mark for identification and one additional mark for appropriate expansion.</p> <p>More freedom of movement (1) because you can sit further away from the console / no limitation due to the length of the wire (1)</p> <p>Increased safety (1) because there are no wires to cause tripping hazards (1)</p> <p>Frees up USB ports on the console (1) allowing the user to connect/charge other devices (1)</p> <p>Faster/easier setup (1) the user just presses a button and it is connected (1)</p> <p>Accept any other relevant phrasing/wording</p> <p>DO NOT accept no wires on its own</p>	4

Question Number	Indicative content
3e	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners will discuss the potential risks that can occur with online communication.</p> <p>Cyberbullying</p> <ul style="list-style-type: none"> • Individuals use digital technology to anonymously target another person • Derogatory comments • Hurtful / harmful messages • Deliberately excluded from discussion groups • encourage inappropriate purchases <p>Privacy</p> <ul style="list-style-type: none"> • Usernames are sometimes based on their real names • Personal information such as location, age, gender, is viewable by all • Gaining personal information hackers can use the information to access other accounts such as social media • Identity theft because personal information has been revealed, e.g. email, age, gender, home address, email, etc. <p>Theft of digital content</p> <p>Personal information</p> <ul style="list-style-type: none"> • Personal profiles are saved to online platforms/apps/sites • Profiles linked to personal information • Personal data is not permanently deleted before the device is disposed of <p>Online predators</p> <ul style="list-style-type: none"> • Online platforms to connect with people in order to lure or groom • Build shared experiences by viewing user history • Inappropriate messages / chats could lead to face to face meetings <p>Malware</p> <ul style="list-style-type: none"> • Adware / trojans can be downloaded and infect systems <p>Inappropriate content</p> <ul style="list-style-type: none"> • Sexual content embedded in messages <p>Addiction to online communication</p> <ul style="list-style-type: none"> • Can cause various physical damage to users such as, anxiety, social dysfunction, depression, etc. • Physical symptoms, such as carpal tunnel, migraines, sleep deprivation, body aches and pains, etc.

Mark scheme (award up to 8 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.

Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding • There will be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic points • Little or no consideration of different aspects
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding • There will be some gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects • There will be some consideration of how they interrelate
Level 3	7–8	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • There will be minor gaps or omissions • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects • Clearly shows how they interrelate

Question Number	Indicative content
4a	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners analyse the features and uses of different types of accessibility devices that can be used when accessing the courses.</p> <p>Microphone</p> <ul style="list-style-type: none"> • Enables verbal input for users who find difficulty using a keyboard/mouse • The user can adjust permission settings to use the microphone with different apps • The user speaks into the microphone which uses specialist software to convert the speech/commands into text or other actions <p>Adapted keyboard</p> <ul style="list-style-type: none"> • Keyboards with large letters/keys that are designed for users with visual impairment • They have high contrast colours and have USB setup • Compact/mini keyboards are smaller in size and more suitable for users which one hand or wheelchair users. They can fit easily between the arms of a wheelchair <p>Braille keyboard</p> <ul style="list-style-type: none"> • Enables the visually impaired user to input text/instructions using Braille • The keys are made up of dots that can be read using touch • Can be connected to a computer using Bluetooth functionality <p>Braille printer/embosser</p> <ul style="list-style-type: none"> • Enables text output by using raised dots that can be read using touch <p>Braille screen / display</p> <ul style="list-style-type: none"> • Enables text input by using a specialist input device that converts text to Braille <p>Speakers/headphones</p> <ul style="list-style-type: none"> • Enable audio output which are useful for visually impaired users • Text is input and is then output as speech • Works in conjunction with text to speech software programs when text on screen is selected with the keyboard/mouse

Large monitors

- displays larger text without reducing the content / window(s) visible
- screen magnifiers/zoom facility software can be installed so the user can zoom in closer on the content being displayed on the screen

Hardware screen magnifier

- they can magnify both video and screen content onto another surface

Vertical mouse

- the user can utilise this type of mouse to avoid wrist strain.
- The mouse is aligned to a more natural handshake position which uses shoulder muscles instead

Joysticks

- users who have limited or no arm movement can control the movement of a mouse/cursor using a mouth-controlled joystick
- can be operated using 'Sip-N-Puff' mouth control

Trackballs

- specifically designed to assist users with limited hand control/motor skill difficulties/poor hand-eye coordination etc.
- the user gets full mouse functionality from a single switch and cursor speed control settings
- they work like an upside-down mouse with the cursor being controlled using the foot/elbow/thumb/fingers/palm by rolling a ball

Headpointers

- adapted to be used by people with limited strength and dexterity
- the head brace is worn on the user's head and when they move their head the corresponding head pointer engages with the keyboard keys
- the head pointer is adjustable and does not interfere with the vision of the user

Eye tracking

- used by people who cannot use a conventional keyboard / hand or foot mouse
- Using a camera mounted on the computer which is set to focus on the user's eye
- The camera determines where the user is looking and monitors any movements made by the user's eye
- When the user blinks slowly the mouse clicks

	<p>Foot mouse / control</p> <ul style="list-style-type: none"> • used by people who have limited/no use of hands or arms • used to navigate software programs similar to using a mouse • There are two segments on a foot mouse to control the cursor and to click or select shortcuts • The foot mouse plugs into the computer using a USB port <p>Bite Switch</p> <ul style="list-style-type: none"> • Allows users to hold the switch in their mouth and gently bite with their front teeth • The switch is activated by applying gentle pressure • Can be mounted on the microphone stem of a headset <p>Puff-sip Switch</p> <ul style="list-style-type: none"> • Used by people who have limited physical mobility • When the user sips or blows into the mouth tube a switch goes on or off • The switch is connected to the computer so the software can react to the input and perform actions
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Mark scheme (award up to 10 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.

Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-4	<ul style="list-style-type: none"> • Demonstrates isolated knowledge and understanding, there be major gaps or omissions • Breaks the situation down into component parts and a few of the points made will be relevant to the context in the question • Limited analysis which contains generic assertions rather than interrelationships or linkages
Level 2	5-7	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding, with few minor omissions/any gaps or omissions are minor • Breaks the situation down into component parts and some of the points made will be relevant to the context in the question • Displays a partially developed analysis which considers some interrelationships or linkages but not always sustained
Level 3	8-10	<ul style="list-style-type: none"> • Demonstrates mostly accurate and thorough/detailed knowledge and understanding • Breaks the situation down into component parts and most of the points made will be relevant to the context in the question • Displays a well-developed and logical analysis which clearly considers interrelationships or linkages in a sustained manner

Question Number	Indicative content
4b	<p>Answers will be credited according to the learner's demonstration of knowledge and understanding of the material, using the indicative content and level descriptors below. The indicative content that follows is not prescriptive. Answers may cover some/all of the indicative content but should be rewarded for other relevant answers.</p> <p>Learners discuss the factors that will affect the choice of network. They should consider the implications for:</p> <ul style="list-style-type: none"> • Business • Employees <p>User Experience / needs Will the choice of network:</p> <ul style="list-style-type: none"> • Require additional training for users? Can additional training be provided in house, or will they need to use an outside training agency. Does the software come with adequate user guides so users may be able to 'teach' themselves? • Incorporate the same functionality as a minimum? • Incorporate the same accessibility features to suit the particular needs of individuals in the shop (may have to be considered) <p>Compatibility Will the network be compatible with:</p> <ul style="list-style-type: none"> • Current hardware used by the organisation. There may be computers of different specifications/ages in use. They must make sure the new operating software will be compatible with the hardware. They will have to consider the implications of replacing / upgrading those computers where the OS is not compatible. <p>Implementation (timescales, testing, downtime)</p> <ul style="list-style-type: none"> • Who will carry out the implementation? Is there the technical knowledge within the current setup, or will there be a need to employ an outside agency? There could be security issues if the outside agency is used as customer's data are likely to be held. • Setting up files / user accounts <p>Timescales</p> <ul style="list-style-type: none"> ○ Timing – this can be crucial because the training agency does not want customers to be unable to access courses/get support for long periods of time. ○ Can the installation be scheduled for a time when the organisation is less busy? ○ Is there a target completion date? ○ If an external company is installing the network, is there a penalty if they do not complete on time? <p>Downtime</p> <ul style="list-style-type: none"> ○ Amount of downtime – the organisation will need to minimize the amount of downtime caused by the changeover. ○ Direct change over could impact the agency if the new system does not work and the current system is obsolete

	<ul style="list-style-type: none"> ○ Phased change over, staff could get used to the new system in phases ○ Parallel change over, downtime would be held to a minimum with the current systems still running while the new ones are being implemented <p>Testing</p> <ul style="list-style-type: none"> ○ Must ensure the new network will work with existing systems, has testing been planned thoroughly ○ Will need to test prior to implementation ○ Need to ensure new network will work with / be suitable for current IT needs ○ Has the network been tested for: security / stability / compatibility with existing hardware or software <p>Productivity</p> <ul style="list-style-type: none"> • Loss of productivity during implementation • Improve productivity / efficiency with the new network system <p>Security</p> <ul style="list-style-type: none"> • Data during implementation • Setting up new network • Up-to-date security software
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Mark scheme (award up to 12 marks) refer to the guidance on the cover of this document for how to apply levels-based mark schemes*.

Level	Mark	Descriptor
Level 0	0	No rewardable material.
Level 1	1-4	<ul style="list-style-type: none"> • Demonstrates isolated elements of knowledge and understanding • There will be major gaps or omissions • Few of the points made will be relevant to the context in the question • Limited discussion which contains generic points • Little or no consideration of different aspects
Level 2	5-8	<ul style="list-style-type: none"> • Demonstrates some accurate knowledge and understanding • There will be some gaps or omissions • Some of the points made will be relevant to the context in the question, but the link will not always be clear • Displays a partially developed discussion which considers some different aspects • There will be some consideration of how they interrelate
Level 3	9-12	<ul style="list-style-type: none"> • Demonstrates mostly accurate and detailed knowledge and understanding • There will be minor gaps or omissions • Most of the points made will be relevant to the context in the question, and there will be clear links • Displays a well-developed and logical discussion which clearly considers a range of different aspects • Clearly shows how they interrelate



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